

Title (en)

METHOD AND APPARATUS FOR IMPROVED MASS SPECTROMETER OPERATION

Title (de)

VERFAHREN UND VORRICHTUNG ZUM VERBESSERTEN MASSENSPEKTROMETERBETRIEB

Title (fr)

PROCÉDÉ ET APPAREIL POUR AMÉLIORER LE FONCTIONNEMENT D'UN SPECTROMÈTRE DE MASSE

Publication

EP 3582249 A1 20191218 (EN)

Application

EP 19178793 A 20190606

Priority

- US 201862684344 P 20180613
- US 201816169900 A 20181024

Abstract (en)

A method of operating a quadrupole mass filter is disclosed. A first set of RF and resolving DC voltages are applied to electrodes of a quadrupole mass filter to selectively transmit first ions having a first mass-to-charge ratio (m/z) . A second set of RF and resolving DC voltages are applied to electrodes of the quadrupole mass filter to selectively transmit second ions having a second m/z . Detection of the second ions is initiated after completion of a settling time. The settling time is determined in accordance with the relationship: $t_{\text{settle}} = A[(m/z)^2 - (m/z)^1]^{1/B} + C \sqrt{(m/z)^2}$, where t_{settle} is the settling time, $(m/z)^1$ is the first mass-to-charge ratio, $(m/z)^2$ is the second mass-to-charge ratio and A, B and C are empirically derived coefficients.

IPC 8 full level

H01J 49/00 (2006.01); **H01J 49/42** (2006.01)

CPC (source: EP US)

H01J 49/0031 (2013.01 - EP); **H01J 49/4215** (2013.01 - EP US); **H01J 49/429** (2013.01 - US)

Citation (applicant)

US 9548193 B2 20170117 - MUKAIBATAKE KAZUO [JP], et al

Citation (search report)

- [XYI] US 2017047212 A1 20170216 - KENNY DANIEL JAMES [GB]
- [X] US 8410436 B2 20130402 - MUKAIBATAKE KAZUO [JP], et al
- [A] US 2015228465 A1 20150813 - BATEMAN ROBERT HAROLD [GB], et al
- [Y] JP 2013175297 A 20130905 - SHIMADZU CORP
- [A] BEHROOZ ZEKAVAT ET AL: "Dynamically Adjusted Mass Axis Delay Times for Optimized Multiple Reaction Monitoring (MRM) Data Acquisition", 4 June 2018 (2018-06-04), XP055633243, Retrieved from the Internet <URL:https://www.agilent.com/cs/library/posters/public/AGILENT_ASMS2018_MP387.pdf> [retrieved on 20191017]

Cited by

US2021090869A1; US11011362B2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3582249 A1 20191218; US 10679841 B2 20200609; US 2019385832 A1 20191219

DOCDB simple family (application)

EP 19178793 A 20190606; US 201816169900 A 20181024